ABSTRACT OF THE DISCLOSURE

A thermal transfer roller includes a first end chamber in communication with a source of thermal transfer fluid, an annulus for receiving the fluid and facilitating thermal transfer to a substrate, and a second end chamber in communication with the annulus for receiving the spent thermal transfer fluid. At least one end chamber includes a plurality of channels, each channel having a wider end approaching the annulus and a narrower end away from the annulus. Preferably, the channels are present in both end chambers. The channels substantially reduce angular flow of the fluid caused by rotation of the roller, and help stabilize and maintain desired fluid volumes flowing through the roller as its velocity is increased.

KCC-1058 25 9/S